

### **APPENDIX F**

ARSENIC DATA FOR WELLS IN WASHOE COUNTY EXCEEDING 10 PPB

TID PRINC	Ad ON	TIID PRIN CNID PWENUMBERG	TINWSYS NAME TIN	NTINWSF.NAME	ST_AS	<b>GTSAANLYT</b> .N	MINTRATICOM COL
A WASHOE	S	NV0000702	ACE APARTMENTS A	ACE WELL	W01	ARSENIC	0.019 MG/L
A WASHOE	2	NV0000702	ACE APARTMENTS A	ACE WELL	W01	ARSENIC	0.027 MG/L
A WASHOE	2	NV0000702	ACE APARTMENTS A	ACE WELL	W01	ARSENIC	0.016 MG/L
A WASHOE	2	NV0000702	ACE APARTMENTS A	ACE WELL	W01	ARSENIC	0.021 MG/L
A WASHOE	S	NV0000866	AIR SAILING INC GLIDERPOR'A	WELL	5	ARSENIC	9 nG/L
A WASHOE	ပ	NV0000277	CONESTOGA MHP	WELL 1	W01	ARSENIC	5.UG/L
A WASHOE	Š	NV0000717	CROSBYS LODGE A	WELL 1	W01	ARSENIC	0.012 MG/L
A WASHOE	2	NV0000717	CROSBYS LODGE A	WELL 1	W01	ARSENIC	0.015 MG/L
A WASHOE	2	NV0000717	CROSBYS LODGE A	WELL 1	W01	ARSENIC	0.015 MG/L
A WASHOE	2	NV0000718	CRYSTAL PEAK PARK	WELL 1	W01	ARSENIC	0.018 MG/L
A WASHOE	2	NV0000718	CRYSTAL PEAK PARK A	WELL 1	WOJ	ARSENIC	0.016 MG/L
A WASHOE	ပ္	NV0000718	CRYSTAL PEAK PARK A	WELL 1	W01	ARSENIC	0.02 MG/L
A WASHOE	ပ္	NV0000718	CRYSTAL PEAK PARK A	WELL 1	W01	ARSENIC	0.015 MG/L
A WASHOE	Š	NV0000718	CRYSTAL PEAK PARK A	WELL 1	W01	ARSENIC	0.012.MG/L
A WASHOE	ပ	NV0000193	CRYSTAL TP A	STORAGE TANK	ST01	ARSENIC	0.04 MG/L
A WASHOE	ပ	NV0000193	CRYSTAL TP	STORAGE TANK	ST01	ARSENIC	0.013 MG/L
A WASHOE	ပ	NV0000193	CRYSTAL TP	STORAGE TANK	ST01	ARSENIC	0.039 MG/L
A WASHOE	ပ	NV0000193	CRYSTAL TP A	STORAGE TANK	ST01	ARSENIC	0.027 MG/L
A WASHOE	ပ	NV0000193	CRYSTAL TP	WELL 1	W01	ARSENIC	0.026 MG/L
A WASHOE	ပ	NV0000193	CRYSTAL TP	WELL 1	W01	ARSENIC	0.024 MG/L
A WASHOE	ပ	NV0000193	CRYSTAL TP A	WELL 1	W01	ARSENIC	0.058 MG/L
A WASHOE	ပ	NV0000193	CRYSTAL TP A	WELL 2	W02	ARSENIC	0.028 MG/L
A WASHOE	ပ	NV0000193	CRYSTAL TP	WELL 2	W02	ARSENIC	0.012 MG/L
A WASHOE	ပ	NV0000193	CRYSTAL TP A	WELL 2	W02	ARSENIC	0.027 MG/L
A WASHOE	ပ	NV0000193	CRYSTAL TP	WELL 2	W02	ARSENIC	0.042 MG/L
A WASHOE	ပ	NV0000193	CRYSTAL TP A	WELL 2	W02	ARSENIC	0.056 MG/L
A WASHOE	ပ	NV0000193	CRYSTAL TP	WELL 2	W02	ARSENIC	0.058 MG/L
A WASHOE	ပ	NV0000193	CRYSTAL TP	WELL 2	W02	ARSENIC	0.019 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	DISTRIBUTION SYSTEM	DS01	ARSENIC	0.01 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	DISTRIBUTION SYSTEM	DS01	ARSENIC	0.014 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	DISTRIBUTION SYSTEM	DS01	ARSENIC	0.01 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	DISTRIBUTION SYSTEM	DS01	ARSENIC	0.01 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	DISTRIBUTION SYSTEM	DS01	ARSENIC	0.01 MG/L
A WASHOE	O	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	W02	ARSENIC	0.01 MG/L

A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	W02	ARSENIC	0.012 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	W02	ARSENIC	0.01 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	· W02	ARSENIC	0.012 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	W02	ARSENIC	0.01 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	.W02	ARSENIC	0.01 MG/L
	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	W02	ARSENIC	0.01 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	W02	ARSENIC	0.011 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	W02	ARSENIC	0.012:MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY COA	WELL DS NO 2	W02	ARSENIC	0.01 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	W02	ARSENIC	0.012 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	:W02	ARSENIC	0.011 MG/L
4 v-	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	W02	ARSENIC	0.011 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	W02	ARSENIC	0.012 MG/L
	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	W02	ARSENIC	0.011 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 2	W02	ARSENIC	0.013 MG/L
ε.	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	W03	ARSENIC	0.011 MG/L
ή** **	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	W03	ARSENIC	0.011 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	.W03	ARSENIC	0.011 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	W03	ARSENIC	0.01 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	W03	ARSENIC	0.01 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	W03	ARSENIC	0.011 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	W03	ARSENIC	0.012 MG/L
, <del></del>	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	.W03	ARSENIC	0.011 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	.W03	ARSENIC	0.015 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	W03	ARSENIC	0.011 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	W03	ARSENIC	0.01 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	W03	ARSENIC	0.01 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	W03	ARSENIC	0.011 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	W03	ARSENIC	0.011 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	W03	ARSENIC	0.013 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	W03	ARSENIC	0.01 MG/L
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	W03	ARSENIC	÷.
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 3	.W03	ARSENIC	
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 4	W04	ARSENIC	<u>. :</u>
A WASHOE	ပ	NV0001085	DESERT SPRINGS UTILITY CCA	WELL DS NO 4	W04	ARSENIC	0.011 MG/L

0.01 MG/L	0.01 MG/L	0.01 MG/L	0.01 MG/L	0.011 MG/L	0.01 MG/L	0.01 MG/L	0.01 MG/L	0.012 MG/L	0.01 MG/L	0.015 MG/L	0.016 MG/L	0.012 MG/L	0.013 MG/L	0.012 MG/L	0.012 MG/L	0.014 MG/L	0.016 MG/L	0.013 MG/L	0.012 MG/L	0.011 MG/L	0.011 MG/L	0.013 MG/L	0.013 MG/L	0.013 MG/L	0.014 MG/L	0.015 MG/L	0.015 MG/L	0.014 MG/L	0.013 MG/L	0.019 MG/L	0.013 MG/L	0.018 MG/L	0.018 MG/L	0.016 MG/L
ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC
W04	W04	W04	W04	W04	W04	W04	W04	DS01	DS01	<b>DS01</b>	DS01	DS01	W01	W02	W01	W02	W02	W02	W02	W02	W02	W02												
WELL DS NO 4	WELL DS NO 4	WELL DS NO 4	WELL DS NO 4	WELL DS NO 4	WELL DS NO 4	WELL DS NO 4	WELL DS NO 4	DISTRIBUTION SYSTEM	WELL SOUTH	WELL NORTH	WELL 4	WELL3	WELL 3	WELL 3	WELL 3	WELL 3	WELL 3	WELL 3																
DESERT SPRINGS UTILITY COA	DESERT SPRINGS UTILITY COA	SPRINGS UTILITY	DESERT SPRINGS UTILITY CCA	DOUBLE DIAMOND A	DOUBLE DIAMOND A	DOUBLE DIAMOND A	DOUBLE DIAMOND A	DOUBLE DIAMOND A	DOUBLE DIAMOND A	DOUBLE DIAMOND A	DOUBLE DIAMOND A	DOUBLE DIAMOND A	DOUBLE DIAMOND A	DOUBLE DIAMOND A	DOUBLE DIAMOND A	DOUBLE DIAMOND A	DOUBLE DIAMOND A	DOUBLE DIAMOND A	HIDDEN VALLEY	HIDDEN VALLEY A	HIDDEN VALLEY	HIDDEN VALLEY	HIDDEN VALLEY A	HIDDEN VALLEY A	HIDDEN VALLEY A	HIDDEN VALLEY								
NV0001085	NV0001085	NV0001085	NV0001085	NV0001085	NV0001085	NV0001085	NV0001085	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000832	NV0000198	NV0000198	NV0000198	NV0000198	NV0000198	NV0000198	NV0000198	NV0000198
ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ	ပ
A WASHOE	A WASHOE		A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE	A WASHOE				

0.015 MG/L	0.015 MG/L	0.012 MG/L	0.019 MG/L	0.02 MG/L	0.017 MG/L	0.015 MG/L	0.015 MG/L	0.014 MG/L	0.02 MG/L	0.019 MG/L	0.019 MG/L	0.071 MG/L	0.067 MG/L	0.067 MG/L	0.017 MG/L	0,016 MG/L	0.027 MG/L	0.061 MG/L	0,016 MG/L	0.017 MG/L	0.013 MG/L	0.011 MG/L	0.01 MG/L	0.011 MG/L	0.018 MG/L	0.011 MG/L	0.037 MG/L	0.027 MG/L	0.035 MG/L	0.035 MG/L	0.032 MG/L	0.026 MG/L		0.019 MG/L
ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC	ARSENIC											
W02	.W02	W02	W02	W02	W02	W02	W02	W02	W02	W02	W02	.W02	W02	W04	W05	W05	.W05	W01	W01	W01	W01	W01	.W01	W02	W02	W02	W02							
WELL 3	WELL 3	WELL 3	WELL 3	WELL 3	WELL 3	WELL 3	WELL 3	WELL 3	WELL 3	WELL 7	WELL 8	WELL 8	WELL 8	NORTH WELL	NORTH WELL	NORTH WELL	NORTH WELL	NORTH WELL	NORTH WELL	SOUTH WELL	SOUTH WELL	SOUTH WELL	SOUTH WELL											
DDEN VALLEY	DEN VALLEY	IDDEN VALLEY	DDEN VALLEY	DDEN VALLEY	DDEN VALLEY	IDDEN VALLEY	IDDEN VALLEY	IDDEN VALLEY	IIDDEN VALLEY	IIDDEN VALLEY	IIDDEN VALLEY	IDDEN VALLEY	IIDDEN VALLEY	DDEN VALLEY A	IDDEN VALLEY A	IDDEN VALLEY A	IDDEN VALLEY	IDDEN VALLEY A	IIDDEN VALLEY	IIDDEN VALLEY	EMMON VALLEY WATER CCA	IONEER HILLS MHP	ONEER HILLS MHP	IONEER HILLS MHP	ONEER HILLS MHP	IONEER HILLS MHP	NEER HILLS MHP A	ONEER HILLS MHP A	ONEER HILLS MHP A	ONEER HILLS MHP A	NEER HILLS MHP			
NV0000198 HIDI	NV0000198 HID	NV0000198 HIDE	NV0000198 HIDI	NV0000198 HIDE	NV0000198 HIDE	NV0000198 HIDI	NV0000198 HID	NV0000198 HIDI	NV0000198 HIDE	NV0000202 LEM	NV0000202 LEM	NV0000202 LEM	NV0000202 LEM	NV0000206 PION	NV0000206 PION	NV0000206 PION	NV0000206 PIOI	NV0000206 PION	NV0000206 PIOI	NV0000206 PION	NV0000206 PIO	NV0000206 PIO	NV0000206 PIO											
A WASHOE C	A WASHOE C			A WASHOE C	:		A WASHOE C	A WASHOE C	A WASHOE C	A WASHOE C	A WASHOE C	A WASHOE C	A WASHOE C	A WASHOE C	WASHOE	A WASHOE C		A WASHOE C	WASHOE	A WASHOE C		A WASHOE C	A WASHOE C	A WASHOE C	WASHOE	A WASHOE C	A WASHOE C	A WASHOE C	A WASHOE C	A WASHOE C				

A WASHOE	ပ္	NV0000206	PIONEER HILLS MAP	SOUTH WELL	W02	ARSENIC	0.062 MG/L
A WASHOE	ပ	NV0000206	PIONEER HILLS MHP	SOUTH WELL	W02	ARSENIC	0,033 MG/L
A WASHOE	ပ	NV0000206	PIONEER HILLS MHP	SOUTH WELL	W02	ARSENIC	0.035 MG/L
A WASHOE	S	NV0000790	SHOP N GO	WELL 1	1000	ARSENIC	0.055 MG/L
	သူ	NV0000790	SHOP N GO	WELL 1	.W01	ARSENIC	0.021 MG/L
A WASHOE	Š	NV0000790	SHOP N GO	WELL 1	1000	ARSENIC	0.018 MG/L
A WASHOE	S	0620000VN	SHOP N GO	WELL 1	1000	ARSENIC	0.018 MG/L
A WASHOE	ပ	NV0004021	SILVER KNOLLS MUTUAL WA'A	WELL 2	W01	ARSENIC	12 UG/L
A WASHOE	ပ	NV0004021	SILVER KNOLLS MUTUAL WA'A	WELL 2	W01	ARSENIC	0.011 MG/L
A WASHOE	ပ	NV0004021	SILVER KNOLLS MUTUAL WA'A	WELL 2	W01	ARSENIC	0.015 MG/L
A WASHOE	ပ	NV0004021	SILVER KNOLLS MUTUAL WA'A	WELL 2	1000	ARSENIC	0.012 MG/L
A WASHOE	Š	NV0000798	SILVER SPUR MOTEL A	WELL 1	W01	ARSENIC	0.018 MG/L
A WASHOE	ဗ္ဓ	NV0000798	SILVER SPUR MOTEL A	WELL 1	·W01	ARSENIC	0.024 MG/L
A WASHOE	Š	NV0000798	SILVER SPUR MOTEL A	WELL 1	W01	ARSENIC	0.024 MG/L
A WASHOE	ပ	NV0001086	SKY RANCH WATER SERVICEA	WELL 1	W02	ARSENIC	0.012 MG/L
A WASHOE	ပ	NV0000800	SPRING CREEK EAST COUNTA	WELL 5	W02	ARSENIC	0.017 MG/L
A WASHOE	ပ္	NV0000800	SPRING CREEK EAST COUNT A	WELL 5	W02	ARSENIC	0.013 MG/L
A WASHOE	ပ	NV0000800	SPRING CREEK EAST COUNTIA	WELL 6	W03	ARSENIC	0.019 MG/L
A 'WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 2	W01	ARSENIC	0.016 MG/L
A WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 2	W01	ARSENIC	0.014 MG/L
A WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 2	10/0	ARSENIC	0.016 MG/L
A WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 2	W01	ARSENIC	0.018 MG/L
A WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 2	1000	ARSENIC	0.015 MG/L
	ပ	NV0004082	SPRING CREEK WATER COMIA	:	W01	ARSENIC	0.014 MG/L
A WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 2	W01	ARSENIC	0.013 MG/L
A WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 2	W01	ARSENIC	0.014 MG/L
A WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 2	W01	ARSENIC	0.016 MG/L
A WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	. ,	W01	ARSENIC	0.012 MG/L
A WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 2	W01	ARSENIC	0.015 MG/L
A WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 2	1000	ARSENIC	0.014 MG/L
A WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	:	WO1	ARSENIC	0.013 MG/L
A WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA		W01	ARSENIC	0.012 MG/L
A WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA		W01	ARSENIC	0.011 MG/L
A WASHOE	Ç	NV0004082	SPRING CREEK WATER COMIA	SC WELL 2	W01	ARSENIC	0.014 MG/L
A WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 2	W01	ARSENIC	0.013 MG/L

WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 2	ARVEINIC	0.0 G W.Q/L
VASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.02 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.014 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.017 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.019 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.018 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.019 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.014 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.019 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.017 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.011 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.014 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.018 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.015 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.016 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.014 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.016 MG/L
WASHOE	ပ	NV0004082	SPRING CREEK WATER COMIA	SC WELL 3 W02	ARSENIC	0.018 MG/L
WASHOE	ပ	NV0002525	SUNRISE ESTATES WATER S'A	SOUTH WELL 2 BACKUP 1W02	ARSENIC	0.014 MG/L
WASHOE	ပ	NV0002525	SUNRISE ESTATES WATER S'A	SOUTH WELL 2 BACKUP 1 W02	ARSENIC	0.018 MG/L
WASHOE	ပ	NV0002525	SUNRISE ESTATES WATER S'A	SOUTH WELL 2 BACKUP 1 W02	ARSENIC	0.017 MG/L
WASHOE	ပ	NV0002525	SUNRISE ESTATES WATER S.A.	α,	ARSENIC	0.017 MG/L
WASHOE	ပ	NV0002525	SUNRISE ESTATES WATER S'A		ARSENIC	
WASHOE	ပ	NV0002525	SUNRISE ESTATES WATER S'A	WELL 2	ARSENIC	0.015 MG/L
WASHOE	ပ	NV0002525	SUNRISE ESTATES WATER S'A	SOUTH WELL 2 BACKUP \ W02	ARSENIC	0.017 MG/L
WASHOE	ပ	NV0000765	SUTCLIFFE MOBILE PARK A	WELL 1	ARSENIC	0.012 MG/L
WASHOE	ပ	NV0000765	SUTCLIFFE MOBILE PARK A	WELL 1	ARSENIC	0.011 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S'A	WELL 1 IRON & MANGANI TP01	ARSENIC	0.018 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1 IRON & MANGANI TP01	ARSENIC	0.014 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1 IRON & MANGANI TP01	ARSENIC	0.013 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S A	WELL 1 IRON & MANGANI TP01	ARSENIC	0.017 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1 IRON & MANGANITP01	ARSENIC	0.02 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1 IRON & MANGANITP01	ARSENIC	0.023 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1 IRON & MANGAN[TP01	ARSENIC	0.015 MG/L
(	CAF	NIVOCO 70	TRUCKEE CANYON WATER S'A	WELL 1 IRON & MANGANITP01	CINESTAL	0.022;MG/I

WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	IRON & MANGANI TP01	(TP01	ARSENIC	0.021 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S A	WELL 1	IRON & MANGANI TP01	ITP01	ARSENIC	0.016 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	IRON & MANGANI TP0	ITP01	ARSENIC	0.014 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	IRON & MANGANI TP0	ITP01	ARSENIC	0.016 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	IRON & MANGANI TP01	(TP01	ARSENIC	0.015 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	IRON & MANGANI TP01	(TP01	ARSENIC	0.02 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER SIA	WELL 1	IRON & MANGANITPO	[TP01	ARSENIC	0.016 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	IRON & MANGANITPO	(TP01	ARSENIC	0.027 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	IRON & MANGANI TPO	(TP01	ARSENIC	0.018 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	IRON & MANGANI TPO	1 TP01	ARSENIC	0.049 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	IRON & MANGANITPO	[TP01	ARSENIC	0.049 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	IRON & MANGAN! TPO	1TP01	ARSENIC	0.053 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	A AND K	W01	ARSENIC	0.018 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	A AND K	W01	ARSENIC	0.043 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER SIA	WELL 1	A AND K	WO1	ARSENIC	0.026 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER SIA	WELL 1	A AND K	W01	ARSENIC	0.037 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	A AND K	:W01	ARSENIC	0.041 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	A AND K	W01	ARSENIC	0.041 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	A AND K	W01	ARSENIC	0.019 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	A AND K	W01	ARSENIC	0.042 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	A AND K	W01	ARSENIC	0.044 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S'A	WELL 1	A AND K	W01	ARSENIC	0.048 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	A AND K	W01	ARSENIC	0.051 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	A AND K	W01	ARSENIC	0.055 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	A AND K	W01	ARSENIC	0.048 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	A AND K	W01	ARSENIC	0.049 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	A AND K	W01	ARSENIC	0.039 MG/L
WASHOE	NTNC	8760000VN	TRUCKEE CANYON WATER S.A.	WELL 1	A AND K	W01	ARSENIC .	0.041 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S.A.	WELL 1	A AND K	W01	ARSENIC	0.041 MG/L
WASHOE	NTNC	NV0000978	TRUCKEE CANYON WATER S A	WELL 1	A AND K	W01	ARSENIC	0.02 MG/L
WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	DISTRIE	DISTRIBUTION SYSTEM	DS01	ARSENIC	0.1 MG/L
WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	LAKESI	AKESIDE DR WELL	W07	ARSENIC	0.01 MG/L
WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATER!	PECKH	4	W08	ARSENIC	0.048 MG/L
WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATER!	PECKT	ECKHAM LANE WELL 9	W08	ARSENIC	0.062 MG/L
TOHO PIN		NIVOOD 190	TRUCKEE MEADOWS WATERA	PEZZIV	VELL	W09	ARSENIC	0.056 MG/L

	>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	PEZZI WELL	60/	ARSENIC	0.062 MG/L
A WASHOE	ပူ	NV0000190	TRUCKEE MEADOWS WATERA	PEZZI WELL	60M	ARSENIC	0.062 MG/L
;	ပ	NV0000190	TRUCKEE MEADOWS WATERA	PEZZI WELL	60M	ARSENIC	0.056 MG/L
A WASHOE	Ç	NV0000190	TRUCKEE MEADOWS WATERA	PEZZI WELL	60M	ARSENIC	0.056 MG/L
A WASHOE	O	NV0000190	TRUCKEE MEADOWS WATERA	PEZZI WELL	60M	ARSENIC	0.056 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	PEZZI WELL	60M	ARSENIC	0.056 MG/L
•	ပ	NV0000190	TRUCKEE MEADOWS WATERA	PEZZI WELL	60M	ARSENIC	0.064 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	PEZZI WELL	60M	ARSENIC	0.064:MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	PEZZI WELL	60M	ARSENIC	0.064 MG/L
ģī	ပ	NV0000190	TRUCKEE MEADOWS WATERA	PEZZI WELL	60M	ARSENIC	0.064 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	PEZZI WELL	60M	ARSENIC	0,061 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	PEZZI WELL	60M	ARSENIC	0.061 MG/L
÷	ပ	NV0000190	TRUCKEE MEADOWS WATERA	PEZZI WELL	60M	ARSENIC	0.062 MG/L
ļ-5	ပ	NV0000190	TRUCKEE MEADOWS WATERA	PEZZI WELL	60M	ARSENIC	0.062 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.01 MG/L
A WASHOE	O	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.02 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.02 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.022 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.022 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.019 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.019 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.019 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.02 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.02 MG/L
· · · ·	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.02 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.022 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.022 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.022 MG/L
A WASHOE	Ų	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.016 MG/L
A WASHOE	Ų	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.018 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.018 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.018 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.019 MG/L
A WASHOE	ပ	NV0000190	TRUCKEE MEADOWS WATERA	GREG ST WELL	W10	ARSENIC	0.019 MG/L

A WASHOE C					· · · · · · · · · · · · · · · · · · ·	
	NV0000190	TRUCKEE MEADOWS WATERA	MILL ST WELL 4	W17	ARSENIC	0.035 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	GALLETTI WELL	W19	ARSENIC	0.013 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	GALLETTI WELL	W19	ARSENIC	0.01 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	HIGH STREET WELL 8	W20	ARSENIC	0.012 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	HIGH STREET WELL 8	W20	ARSENIC	0.011 MG/L
A WASHOE C	NV0000190	TRUCKEE MEADOWS WATERA	HIGH STREET WELL 8	W20	ARSENIC	0.013 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	HIGH STREET WELL 8	W20	ARSENIC	0.013 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	HIGH STREET WELL 8	W20	ARSENIC	0.01 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	HIGH STREET WELL 8	W20	ARSENIC	0.01 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	HIGH STREET WELL 8	W20	ARSENIC	0.01 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	MORRILL AVE WELL	W21	ARSENIC	0.01 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	MORRILL AVE WELL	W21	ARSENIC	0.01 MG/L
A WASHOE C	NV0000190	TRUCKEE MEADOWS WATERA	KIETZKE LN WELL	W22	ARSENIC	0.013 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	KIETZKE LN WELL	W22	ARSENIC	0.013 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	KIETZKE LN WELL	W22	ARSENIC	0.013 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	KIETZKE LN WELL	W22	ARSENIC	0.012 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	KIETZKE LN WELL	W22	ARSENIC	0.012 MG/L
†	NV0000190	TRUCKEE MEADOWS WATERA	VIEW ST WELL	W24	ARSENIC	0.01 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	VIEW ST WELL	W24	ARSENIC	0.01 MG/L
A WASHOE C	NV0000190	TRUCKEE MEADOWS WATERA	VIEW ST WELL	W24	ARSENIC	0.016 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	VIEW ST WELL	W24	ARSENIC	0.015 MG/L
A WASHOE C	NV0000190	TRUCKEE MEADOWS WATERA	VIEW ST WELL	W24	ARSENIC	0.016 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	VIEW ST WELL	W24	ARSENIC	0.013 MG/L
A WASHOE C	NV0000190	TRUCKEE MEADOWS WATERA	GLEN HARE WELL	W28	ARSENIC	0.013 MG/L
A WASHOE C	NV0000190	TRUCKEE MEADOWS WATERA	SILVER LAKE WELL 1	W30	ARSENIC	0.01 MG/L
A WASHOE C	NV0000190	TRUCKEE MEADOWS WATERA	SILVER LAKE WELL 1	W30	ARSENIC	0.01 MG/L
A WASHOE C	NV0000190	TRUCKEE MEADOWS WATERA	SILVER LAKE WELL 1	W30	ARSENIC	0.015 MG/L
A WASHOE C	NV0000190	TRUCKEE MEADOWS WATERA	SILVER LAKE WELL 1	W30	ARSENIC	0.015 MG/L
WASHOE	NV0000190	TRUCKEE MEADOWS WATERA	AIR GUARD WELL	W31	ARSENIC	0.01 MG/L
WASHOE	NTNC NV0005061	VERDI BUSINESS PARK WATEA	WELL 1	W01	ARSENIC	0.013 MG/L
WASHOE	NTNC NV0005061	VERDI BUSINESS PARK WATEA	WELL 1	W01	ARSENIC	0.012 MG/L
WASHOE	NTNC NV0005061	VERDI BUSINESS PARK WATEA	WELL 1	W01	ARSENIC	0.012 MG/L
WASHOE	C NV0000196	VERDI MEADOWS UTILITY CCA	WELL GW1	1000	ARSENIC	0.011 MG/L
A WASHOE IN	NTNC NV0003000	VERDI SCHOOL	WELL 1	W01	ARSENIC	12,UG/L

A WASHOE		NV0003000	VERDI SCHOOL	WELL 1	.W01	ARSENIC	0.012 MG/L
A WASHOE		NV0003000	VERDI SCHOOL A	WELL 1	W01	ARSENIC	0.012 MG/L
A WASHOE		NV0003000	VERDI SCHOOL	WELL 1	W01	ARSENIC	0.01 MG/L
A WASHOE	NTNC	NV0003000	VERDI SCHOOL	WELL 1	W01	ARSENIC	0.014.MG/L
A WASHOE	NTNC	NTNC NV0003000	VERDI SCHOOL	WELL 1	W01	ARSENIC	0.012 MG/L
A WASHOE	NTNC	NV0003000	VERDI SCHOOL	WELL 1	W01	ARSENIC	0.012 MG/L
A WASHOE	NTNC	NV0003000	VERDI SCHOOL	WELL 1	W01	ARSENIC	0.016 MG/L
A WASHOE	2	NV0000727	WASHOE GRILL		W01	ARSENIC	0.01 MG/L
A WASHOE	S	NV0003094	WASHOE REGIONAL SHOOTILA		W01	ARSENIC	0.012 MG/L
A WASHOE	2	NV0003094	WASHOE REGIONAL SHOOT!! A		W01	ARSENIC	0.01 MG/L
A WASHOF	2	NV0003094	WASHOE REGIONAL SHOOT!! A		W01	ARSENIC	0.01 MG/L



## **APPENDIX G**

NOISE ANALYSIS OF SPANISH SPRINGS QUARRY

## **Environmental Noise Analysis**

# Spanish Springs Quarry Extension Project

Washoe County, Nevada

Bollard & Brennan Job #2004-271

Prepared For:

**Martin Marietta Materials - Northwest Division** 

Mr. Neil Grant 11252 Aurora Avenue Des Moines, IA 50322

Prepared By:

Bollard & Brennan, Inc.

Ryan Sawyer Consultant

October 29, 2004

Bollard & Brennan, Inc.

#### INTRODUCTION

The Spanish Springs Quarry is operated by Martin Marietta on both public and private land. The material being mined at this quarry is diorite, a coarse grained intrusive rock. The mined and processed rock is used as drain rock, road base, and as aggregate for asphalt and Portland cement concrete. The Spanish Springs Quarry Extension project proposes the mining of a single land parcel of approximately 390 acres, located to the southwest of the existing quarry. Figure 1 shows the project site.

The nearest residences are located a considerable distance from the proposed mining site. Nonetheless, the project applicant has retained Bollard & Brennan, Inc. to perform an acoustical analysis of the project. Specifically, the purposes of this analysis are to quantify mining operations at the existing Spanish Springs Quarry, utilize this data in the prediction of project related noise levels at the nearest residences, and to compare these predicted levels to the applicable Washoe County noise level criteria.

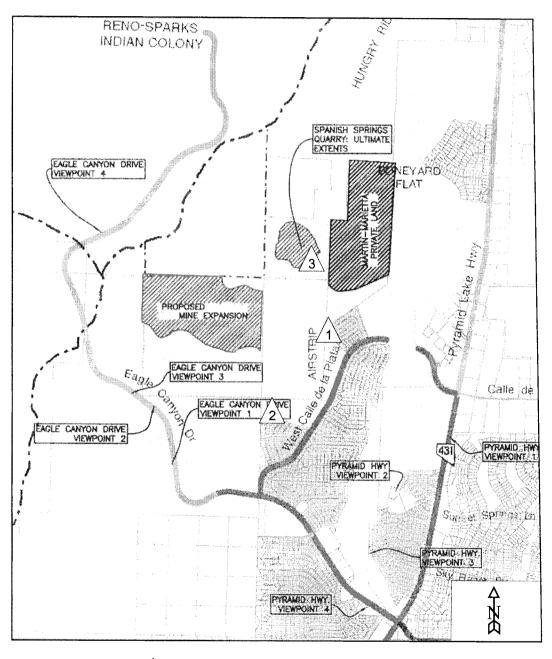
#### BACKGROUND ON NOISE AND ACOUSTICAL TERMINOLOGY

Noise is often described as unwanted sound. Sound is defined as any pressure variation in air that the human ear can detect. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second, called Hertz (Hz).

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals of pressure), as a point of reference, defined as 0 dB. Other sound pressures are then compared to the reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB. Another useful aspect of the decibel scale is that changes in decibel levels correspond closely to human perception of relative loudness. Figure 2 illustrates common noise levels associated with various sources.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by weighing the frequency response of a sound level meter by means of the standardized A-weighing network. There is a strong correlation between A-weighted sound levels (expressed as dBA) and community response to noise. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels.

Figure 1
Vicinity Map and Noise Measurement Locations
Spanish Springs Quarry Extension

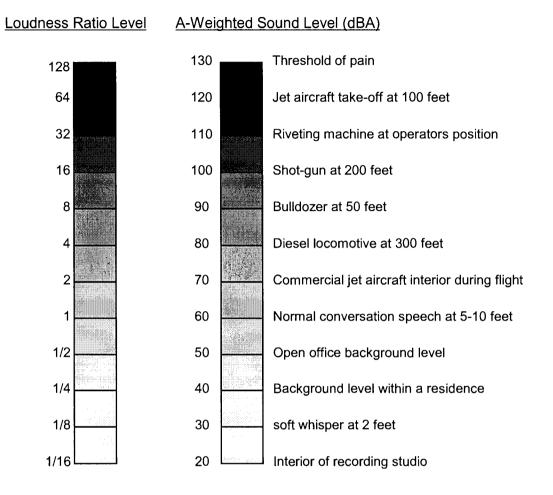


/#\ :

: Noise Measurement Locations



Figure 2
Typical A-Weighted Sound Levels of Common Noise Sources



#### DESCRIPTION OF AREA AND EXISTING NOISE ENVIRONMENT

The project is located approximately a mile and a half west of the Pyramid Lake Highway, and approximately 2,500 feet west of the Spanish Springs Pilots Association Landing Strip in Spanish Springs, Nevada. The nearest residential uses are located approximately 2,800 feet to the east of the project boundary, and approximately 3,000 feet to the south of the project boundary, as shown in Figure 1.

To quantify the existing noise environment at the residences located nearest to the proposed project site, short-term noise level measurements were performed at two locations on October 21, 2004. Due to the large amount of construction taking place in the vicinity of these residences, noise level measurements were performed in the evening hours when construction had ceased. The ambient noise environment at both locations was defined primarily by aircraft operations and to a lesser extent by distant traffic noise. Weather conditions present during the noise level measurements were typical for the season, consisting of cloudy skies and lower temperatures.

A Larson Davis Laboratories (LDL) Model 820 precision integrating sound level meter was used for the noise level measurement survey. The meter was calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4). The numerical summaries of the ambient noise level measurements are provided in Table 1.

	Statistical Summary of Am Spanish Springs (			ılts						
Site #	Location	Time	Average Noise Level (Leq)	Maximum Noise Level (Lmax)						
1 Nearest residences to the east 6:30 p.m. 43 dB 57 dB										
Nearest residences to the south 7:15 p.m. 44 dB 61 dB										

#### CRITERIA FOR ACCEPTABLE NOISE EXPOSURE

#### Washoe County Criteria:

The Washoe County Development Code applies a 65 dB Ldn noise level standard at the property line of residential uses. The Ldn descriptor is a composite 24-hour average noise level. As previously noted, this descriptor applies a +10 dBA penalty to noise levels which occur during the nighttime period (10 p.m. to 7 a.m.).

#### METHODOLOGY FOR QUANTIFYING NOISE GENERATED BY THE PROJECT

According to the project application, and discussions with the project applicant, mining of the proposed quarry extension will be similar to that of the existing quarry operations. Specifically, mining is accomplished by a bulldozer that removes and pushes the material downhill to the quarry floor. On the quarry floor a front-end loader will feed a crusher and a conveyor will transport the material to existing processing facilities which will remain on the floor of the existing quarry. Processing facilities will remain the same and production will continue to be based upon demand. The only anticipated change in operations associated with this project that could potentially affect the ambient noise environment at the nearest residences is the operation of mining equipment within the subject property that does not occur today.

On October 21, 2004, Bollard & Brennan, Inc. obtained noise level measurements of the existing quarry operations during a worst-case hour in which mining operations were continuous for the entire hour. The noise level measurement site was located at the southeast edge of the quarry, with a direct line of site to the three noise-generating mining components; the bulldozer, front-end loader, and rock crusher. More specifically, the noise level measurement site was approximately 630 feet from the bulldozer, 715 feet from the crusher, and the front-loader operated at different locations within the quarry, ranging from 315 to 750 feet from the noise measurement site. Table 2 shows the numerical results of this noise level measurement.

		Table 2 ag Quarry Operations gs Quarry Extension Pro	ject								
Site #	Location	Average Noise Level (Leq)	Maximum Noise Level (Lmax)								
3	3 500 Feet from center of quarry 65 dB 74 dB										
1	ollard & Brennan, Inc. nows the general noise measurement si	te location.									

#### PROJECT RELATED NOISE LEVELS AT THE NEAREST RESIDENCES

As shown in Figure 1, the nearest residences to the east and south of the project site are located approximately 5,300 feet from the center of the proposed quarry. The noise levels measured at the existing quarry were used in conjunction with accepted noise prediction methodologies to determine the project generated noise levels at these residences. According to the project application, operations at the proposed quarry will be limited to the hours from 6:00 a.m. to 12:00 a.m. (midnight). Based upon conversations with Martin Marietta staff, operations at the quarry will generally be limited to the hours of 6:00 a.m. to 5-6:00 p.m. However, in order to remain conservative in the prediction of project related noise levels at the nearest residences, it was assumed that operations at the quarry could be continuous from 6:00 a.m. to 12:00 a.m. (midnight). Table 3 shows the predicted noise levels at the nearest residences, based upon these assumptions and the noise level data shown in Table 2.

# Table 3 Predicted Project Related Noise Levels at the Nearest Residences Spanish Springs Quarry Extension Project

Location <sup>1</sup>	Distance From Center of Proposed Quarry	Average Hourly Noise Level (Leq) <sup>2</sup>	Ldn
Nearest residences to the East and South	5,300 feet	44 dB	47 dB

<sup>&</sup>lt;sup>1</sup>Figure 1 shows the location of the nearest residences.

As shown in Table 3, noise generated by the proposed project is predicted to result in noise levels of approximately 47 dB Ldn at the nearest residential uses to the east and south, and would therefore be well within compliance with the Washoe County exterior noise level criteria of 65 applied at the property line of residential uses. It may be noted that these levels do not take into account intervening topography between the quarry and the nearest residential uses. After consideration of acoustical shielding provided by this intervening topography, actual noise levels are expected to be even lower.

#### CONCLUSIONS

Washoe County applies a 65 dB Ldn exterior noise level standard at the property line of residential uses. Due to the degree of separation between the proposed quarry and the nearest residences, project related noise levels are predicted to be approximately 47 dB Ldn or less at these locations. Therefore, noise levels generated by the proposed quarry extension are predicted to be well within compliance with the Washoe County noise level criteria and no additional mitigation would be required of this project.

<sup>&</sup>lt;sup>2</sup>Project noise levels are based on a reference level of 64.5 dB at 500 feet and a noise attenuation rate of 6 dB decrease per doubling of distance from the noise source. It may be noted that no corrections were applied for shielding by intervening topography.

Appendix A Acoustical Terminology

Acoustics The science of sound.

Ambient Noise The distinctive acoustical characteristics of a given space consisting of all noise sources

audible at that location. In many cases, the term ambient is used to describe an existing or

pre-project condition such as the setting in an environmental noise study.

Attenuation The reduction of an acoustic signal.

**A-Weighting** A frequency-response adjustment of a sound level meter that conditions the output signal

to approximate human response.

Decibel or dB Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound

pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.

CNEL Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise

occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime

hours weighted by a factor of 10 prior to averaging.

Frequency The measure of the rapidity of alterations of a periodic signal, expressed in cycles per

second or hertz.

Ldn Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.

**Leq** Equivalent or energy-averaged sound level.

Lmax The highest root-mean-square (RMS) sound level measured over a given period of time.

**Loudness** A subjective term for the sensation of the magnitude of sound.

**Masking** The amount (or the process) by which the threshold of audibility is for one sound is raised

by the presence of another (masking) sound.

**Noise** Unwanted sound.

**Peak Noise** The level corresponding to the highest (not RMS) sound pressure measured over a given

period of time. This term is often confused with the "Maximum" level, which is the highest

RMS level.

RT<sub>60</sub> The time it takes reverberant sound to decay by 60 dB once the source has been removed.

Sabin The unit of sound absorption. One square foot of material absorbing 100% of incident

sound has an absorption of 1 sabin.

Threshold

of Hearing The lowest sound that can be perceived by the human auditory system, generally

considered to be 0 dB for persons with perfect hearing.

Threshold

of Pain Approximately 120 dB above the threshold of hearing.



Bollard & Brennan, Inc.